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OF
ENVIRONMENTAL QUALITY

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June 9, 2011

FPU #11-241

Ms. Troy Kennedy
Remediation Portfolio Director
Honeywell International
Health, Safety, Environment and Remediation
101 Columbia Turnpike
Morristown, New Jersey 07962

Re: M52 OU2-Comments on the Honeywell Final Focused Human Health Risk Assessment Report (FHHRA) dated March 2011 prepared by CH2MHill for the Honeywell 34th Street Facility, Motorola 52nd Street Superfund Site.

Dear Ms. Kennedy:

The report titled Final Focused Human Health Risk Assessment Report, Honeywell 34th Street Facility was reviewed by the Arizona Department of Environmental Quality (ADEQ) in consultation with the U.S. Environmental Protection Agency (EPA). The following are ADEQ's and EPA's comments. EPA's comments are included as Attachment 1.

ADEQ Comments

1. Off-site Exposure Areas

It is not clear to a reader of the general public, until further into the document (approximately Section 2 or 3), that there are two off-site exposure areas having different receptor groups. The terminology referring to the PSHIA exposure area as "offsite PSHIA" vs. "PSHIA" interchangeably contributes to this in part. The other component contributing to this confusion is the location of the information regarding the residential off-site area remanded to Appendix H, noted several times throughout the text. [*Note:* Figure 3-3 footnote (3) incorrectly refers to the offsite exposure area risk estimates in Appendix I]. The executive summary (ES-3) indicates that the current and future residential receptor occurs only in the Off-site Exposure Area, followed by Exhibit ES-1 which shows residents exposed to groundwater in Honeywell North, Honeywell South, and offsite PSHIA. In section 2, Exhibit 2-1, there is no indication of future residential for North, South, and PSHIA, but it is introduced in Exhibit 3-1 following the discussion of section 3.1.4 demonstrating that groundwater cannot be used in the study area.

Understandably, due to prior discussions and agreement, the bulk of the information for the offsite scenario was largely placed in the appendices. However, for purposes of clarity, the sections noted may need a stronger presentation that there will be an evaluation of on-site (North

and South) and off-site PHSIA **future** residential receptors for direct and indirect groundwater exposures regardless of the fact that the current/future "real" off-site residential receptor is relegated to evaluation in Appendix H. The rationale that these are kept separate should be reiterated, i.e., the COPCs for the "real" offsite resident are considered in the context of the greater commingled plume.

2. 1,4-Dioxane

Exhibits ES-2 and 7-6 have a footnote indicating that the less than 5% detection frequency of 1,4-dioxane may justify the removal of it from the COPC list in the future. It appears from the data present on the CD that many of the reporting limits for non-detects were 1 ug/L, and there were numerous parameter listing for U results of this contaminant. Since the predominant reporting level is less than the screening level of 0.67 ug/L, this may not prove the case with further data collection.

3. Section 1.2.7.1, ADEQ Approved 2004 LUST Corrective Action Plan

This discussion is helpful in pointing out the genesis of the BSVE, and discusses the applicable Tier 1 corrective action standards at the time the CAP was approved. However, it is important to note that Tier 1 standards are not necessarily the corrective action standards that the residual vadose soil, smear zone, and groundwater concentrations that the "LUST site" will be compared to. Because of the vapor intrusion pathway, additional chemical contribution to the evaluation of health risk and hazard will extend beyond the MTBE, benzene, and naphthalene stated.

4. Section 1.2.8.5, Vapor Action Levels

This section and the accompanying Appendix C was confusing to see in light of the discussion provided in the Draft Report. Previously, the draft document largely discussed VALs in association with either the Draft Appendix G (Underground Utility Vaults), or the BSVE system operation. It was not clear at that time that VALs other than "vault" VALs were going to being used as a trigger for "unacceptable" exposures to on-site workers should the forced-air design of the BSVE result in soil vapor concentrations exceeding these various VALs shown in this revised report. Neither the March 22, 2010, Technical Memorandum nor the 2006 CH2MHill document were reviewed for the purpose of estimating appropriate risk thresholds or exposures for on-site workers during this remediation period. Although the concept is a good one, it is not clear how or whether the BSVE operating conditions significantly affect assumptions of the J&E model, thereby affecting the accuracy of the risk estimates.

5. Uncertainty

It may be worth mentioning that due to the predominance of non-TO-15 data for soil gases and the differences in the target analytes among the methods used the indoor air vapor intrusion COPCs may warrant revision as more structured sub-slab soil gas sampling is conducted.

EPA Comments

In addition to the preceding ADEQ comments, the EPA has provided a number of comments to be addressed as well. These comments are included as Attachment I.

For questions regarding ADEQ's comments, please feel free to contact me at (602) 771-4197 or email ***stonebrink.brian@azdeq.gov*** or contact Jeanene Hanley at (602) 771-4314 ***hanley.jeanene@azdeq.gov.*** For questions regarding EPA's comments, please contact Martin Zeleznik at (415) 972-3543 or ***email zeleznik.martin@epa.gov***

Sincerely,

Brian Stonebrink

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Federal Projects Unit
ADEQ

cc: Jeanene Hanley, ADEQ
Joellen Meitl, ADEQ
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Gerald Hiatt, EPA
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Project and Reading File

Attachment 1- EPA Comments

EPA Comments on the Focused Human Health Risk Assessment Report for Honeywell 34th Facility, Motorola 52nd Street Superfund Site, Phoenix, Arizona

MAJOR COMMENTS

Off-Site Risk Estimates: The risk assessment presents detailed information on vapor intrusion risks for numerous locations on Honeywell property. In contrast, relatively few risk estimates are developed for off-site exposures. Off-site vapor intrusion risks are a major U.S EPA concern because a large number of these properties are residential areas where children, the elderly and other sensitive receptors live or can otherwise be exposed and because exposures off-site will be more difficult for Honeywell to control.

What plans exist to develop a more complete understanding of off-site vapor intrusion risks?

Screening of COPCs to COCs: The Workplan specifies using risk-based screening levels and frequency of detection to screen COPCs (contaminants of potential concern) into or out of the risk assessment as COCs (contaminants of concern). While this is an accepted and appropriate procedure, it can create challenges for the 5 Year Review process *if not clearly documented*. The issue arises when, subsequent to the original risk assessment, there are significant future changes in toxicity values and/or detection limits. For example, a COPC may be screened out of the risk assessment based on the concentrations in impacted media being below (numerically less than) current risk-based screening levels (e.g., Superfund Regional Screening Levels, RSLs). However, if in the future, new toxicity information subsequently lowers the RSL, a 5 Year Review may not be able to determine protectiveness without additional assessment of that contaminant to determine if it makes a significant contribution to site-related risk. Having the original toxicity value clearly stated in the risk assessment, will allow a much easier future assessment about the risk contribution. Another example would be if a COPC has been screened out of further risk consideration due to a low frequency of detection and the detection limit is subsequently lowered. Then the 5 Year Review might conclude that additional investigation may disclose a significant frequency of occurrence (this is similar to the recent situation with respect to 1,4-dioxane at chlorinated solvent Superfund sites).

Therefore, the FHHRA needs to include a section documenting the rationale, including numerical values, used for screening each COPC out of the risk assessment. It would be most helpful if this were summarized in a table presenting each COPC, rationale for exclusion (e.g., maximum detect less than risk-based screening level or frequency of detection less than 5%) and the relevant numerical values (e.g., soil, water, air RSL or detection limit range).

This discussion should specifically address breakdown products of PCE, TCE and 1,1,1-TCA to include the dichloroethenes, dichloroethanes, vinyl chloride and chloroethane (in addition to any other COPCs).

Construction Worker Exposure Scenario: The current exposure scenario for a construction worker is not health-protective and needs to be adjusted. The current construction worker exposure assessment assumes an exposure duration (ED) of only 1 year (Table 3-6). While this may be a reasonable assumption for a construction worker's exposure to contamination at the

34th Street facility, it is not a health-protective assumption for the construction worker over the course of a career. A one year ED inherently assumes that the construction worker has never before, and will never again, work at any contaminated site – this is an unreasonable assumption. It is highly likely that an individual construction worker exposed to sub-surface contamination at one industrial site (e.g., Honeywell 34th Street) has similarly been exposed previously at other industrial sites and will be exposed again in the future at still others. In order to provide a level of health protection commensurate with others EPA is charged with protecting (including on-site industrial workers, whose ED is assumed to be 25 years, and residents, whose ED is assumed to be 30 years) the ED has to be increased. Lacking specific data for Phoenix-based construction workers, a reasonable default would be to assume that a construction worker spends one-third to one-half of a career exposed to contamination and use an ED value of 8.3 to 12.5 years.

Potential Risks From Single-Event Exposures: Exposure point concentrations for commercial/industrial and construction worker exposures were calculated using contaminant concentration data grouped by exposure area. While this is appropriate for assessing risks from chronic exposures, where there is repeated contact integrated across the contaminated area, it dilutes the impact of direct contact with specific locations where maximum detected concentrations exist. If maximum detect values are sufficiently higher than EPC values (which usually represent an estimate of the mean) it is possible that single-event exposures to the maximum detected concentration could elicit an acute or sub-chronic health impact. Therefore it would be useful to compare maximum detected concentrations with acute or sub-chronic toxicity values to determine if this possibility exists.

1,4-Dioxane Detection Limits: 1,4-dioxane (1,4-DX) is a common contaminant at chlorinated solvent Superfund sites, due to its use as a solvent stabilizer. There is an unexpectedly low frequency of detection of 1,4-DX at this Honeywell site, which suggests that historical detection limits at the site have not always been sufficient to detect significant 1,4-DX concentrations. A thorough review of detection limits and re-consideration of its potential role as a COC should be performed and thoroughly discussed in the risk assessment. If a decision is made to not include 1,4-DX as a contaminant of concern in the risk assessment, this needs to be made transparently clear in the COPC to COC section.

Soil Gas Units: Tables in the draft present soil gas concentrations in units of µg/L (micrograms per liter); these should be changed to units of $\mu g/m^3$ (micrograms per cubic meter) to be consistent with units in which EPA, and others, express the toxicity values used for risk assessment.

Vapor Action Levels (VALs): Some clarification is needed on the development and application of Vapor Action Levels specified in Appendix C. It is not clear if these are meant to be risk-based soil vapor screening levels used to interpret the potential risks posed by vapor intrusion exposures for the general public or if they have some other use. If intended as soil vapor screening levels, it is noted they are not in agreement with the Soil Gas Human Health Screening Levels (SGHHSLs) developed by U.S. EPA for assessing vapor intrusion potential at sites within Arizona (as illustrated by the table below compariing of VALs and SGHHSLs for PCE and TCE)>

Contam	SGHHSL	BSVE Tier 1 (10-6)	Tier 1 Long Term (10-6)
PCE	180	27,000	21,000
TCE	520	79,000	7,000

The SGHHSLs were developed to be protective of residential exposures while the VALs appear to have been developed to protect workers. Since residential exposure scenarios assume more frequent and longer duration exposure, it is anticipated that residential screening levels will be more conservative (i.e., set at lower concentrations), but the magnitude of difference is higher than would be expected based solely on residential vs. commercial/industrial exposure scenarios. Additional information on the intended use of VALs would be appreciated.

Leaching of COPCs to Groundwater: The draft FHHRA states that "...leaching of COPCs in soil to groundwater is potentially complete but insignificant pathway based on modeling results using VLEACH" and further notes that "[m]odeling predicted that vadose zone chemicals will not impact
groundwater to concentrations above MCLs; therefore, this transport pathway was not evaluated quantitatively". Even though its contribution to groundwater contamination may be at less than MCL concentrations, this does not mean that a COPC's contribution to risk is negligible.

Screening HQ Value: For screening purposes a Hazard Quotient value of 0.1 (not 1.0) should be used. This will help ensure that cumulative risks from exposure to multiple COPCs with additive non-cancer hazards will not be overlooked when each alone contributes an HQ less than unity.

MINOR/TYPO ISSUES

- Table 3-6 lists exposure frequency assumptions for child industrial and construction workers – assumed to be typos(?)
- Specify numerical value of December 1997 residential soil remediation level discussed in 1.2.5.3.
- Specify area and adjacent buildings for free-product removal action discussed in 1.2.5.4.
- Specify contaminants and numerical remedial values for remediation activity discussed in 1.2.5.5.
- Specify contaminants and numerical release/remedial values for BSVE activity discussed in 1.2.6.1.
- Specify contaminants and numerical risk-based screening levels for Corrective Action activity discussed in 1.2.7.1.
- Explain why Exhibit 3-1 notes a complete exposure pathway for contact with impacted surface soil in the off-site area.